

## EVOLVING AN INSTRUCTION PROGRAM

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**ABSTRACT:** The Scripps Institution of Oceanography (SIO) Library instruction and outreach program serves three primary audiences: 1) new academics, 2) new students and 3) existing academics and students who are not familiar with some or all library resources. A structured program, envisioned to instruct and inform these users about library resources and services, has been launched. However, technology is mutable, new products and services are introduced, our patrons' needs and expectations change. Because of these factors, SIO Library must continually evolve its instruction program.

SIO Library has the advantage of being part of a large ARL library system - the University of California, San Diego (UCSD). SIO is able to draw on the experience of other instruction librarians in its library system. Nonetheless, limitations still exist.

This paper presents SIO Library's instruction plan, outreach activities and the types of instructional modules implemented. Will also discuss rethinking the SIO Library Web presentation to bring focus to resources in a more traditional way, and describe the larger context of instruction and outreach in the UCSD science libraries, their implementations and plans.

The Scripps Institution of Oceanography (SIO) Library instruction and outreach program serves three primary audiences: 1) new academics, 2) new graduate students and 3) existing academics and students who are not familiar with some or all library resources. A structured program, envisioned to instruct and inform these users about library resources and services, has been launched. However, technology is mutable, new products and services are introduced, our patrons' needs and expectations change and outreach becomes more closely aligned with successful instruction. Because of these factors, SIO Library must continually evolve its instruction and outreach program. SIO Library has the advantage of being part of a large ARL library system - the University of California, San Diego (UCSD). SIO is able to draw on the experience of other instruction librarians in its library system. Nonetheless, limitations still exist. This paper presents SIO Library's instruction plan, outreach activities and the types of instructional modules implemented. This paper will also describe rethinking the SIO Library Web presentation to bring focus to resources in a more traditional way, and describe the larger context of instruction and outreach in the UCSD science libraries, their implementations and plans.

## BACKGROUND: SIO LIBRARY'S INSTRUCTION PROGRAM

In August 1995 an Instruction Coordinator was hired to develop and implement a formal instruction and outreach program for the SIO Library. Prior to this, the SIO Library Director sent email notices to patrons promoting new resources and services, placed announcements in the institution's email and Web newsletter (*SIO Log*), and consulted with individuals about various services and resources. However, classroom demonstrations of digital resources or new services were not conducted. SIO patrons, empowered with computer access to library catalogs and databases and services from their offices and homes, were not taking full advantage of these resources. Some expensive databases were underutilized and patrons continued to come into the library for basic reference help that could have been done easily from their office computers. To effect change, a program was envisioned to instruct users in library resources and services and enable them to take full advantage of their office computers to access journal article databases and electronic journal content. This instruction program would not diminish the role of the physical library and its collections, but it would significantly reduce the time patrons spend on library research, streamline the citation and document requesting process, and speed up document delivery. It would also reduce the number of trips to the library for many routine transactions. The SIO Library instruction and outreach program developed slowly during its first two years, with the focus on determining the best outreach method(s) to reach the new academics and new graduate students. Administrative and management responsibilities precluded teaching classes until January 1998: the time between late 1995 and January 1998 was spent developing the instruction and outreach plan.

## DEVELOPING AN INSTRUCTION PLAN

The SIO instruction plan was derived from previous instructional experience (Berteaux, 1995), but it was carefully tailored for the SIO research community. The plan addresses outreach efforts to build awareness of services and materials available for research, and to instruct users in desktop access to library resources. Outreach includes communicating information about library resources and services to the users in an effective, efficient, timely manner within a structured program. The primary goal of this library instruction plan is to enable users to become self-sufficient in the use of the UCSD library collection, resources and services, with a focus on the SIO Library.

The instruction plan consisted of five phases: **Phase I)** Develop outreach methods. Establish the best method(s) for contacting and disseminating information to SIO faculty and students. This phase was conducted from the end of 1995 through mid-1997; **Phase II)** Analyze costs and develop a budget including staff time and expenses such as materials and supplies, communications and photocopy. Emphasis is on electronic means. Determine the feasibility of establishing "live" demonstrations at SIO. Consider equipment options to purchase or rent computer display equipment. After observing the initial cost, breakdown, repair and replacement problems experience in other departments, the decision was made to rent A/V equipment. In 1997, the initial expense to purchase an 800x600 resolution computer display panel and Halide overhead projector was over \$5,000. Repair, replacement and upgrading make the purchase of computer display equipment untenable. The cost to rent the same equipment from UCSD Media Services for 30 contact (instruction) hours during the 1996/1997 academic year was \$1000 (averaging \$33 per

one-hour session). The Library purchased a cart for moving computer equipment and a wall-mounted screen (total cost was \$306); **Phase III**) Convert unused technical services space into a 22-seat instruction room. **Phase IV**) Develop instructional modules covering 1) Information about the UC system and UCSD Libraries: SIO Library, other science libraries, the main Geisel Library, 2) Products, catalogs, abstracts & indexes and databases: *ROGER* & *Melvyl* catalogs, primary telnet & Web databases, *Melvyl* System, *Melvyl* services and primary *Melvyl* system databases, CD-ROM products at SIO and in other library units, InfoStations, networked CD-ROM databases such as Science Citation Index and other databases as deemed appropriate, 3) Services: Circulation, *ROGER* (View your own record), UCSD circulation status in the *Melvyl* catalog, Library Express document delivery service, ILL, Reference, Update and other SDI services, 4) Specialized resources: subject, discipline and/or SIO-specific, for example, Resources in Geology and Geophysics, Resources in Biology, Resources in Climatology and Meteorology, etc.; **Phase V**) Prepare and conduct orientation classes. Briefly introduce highlights of SIO Library services at the New SIO Graduate student "Introduction to SIO". Test equipment and conduct orientation session for SIO Library public services staff and start offering classes to the SIO research community. Offer orientation classes at various times and on various days of the week to determine the best day and time to draw an audience.

## ESTABLISH EFFECTIVE OUTREACH METHODS

Outreach has been a crucial factor in the SIO instruction program since its inception. Outreach tactics designed to get the attention of the target audience(s) and entice them to attend a class included: 1) posting flyers in the lobby, on a bulletin board near the snack bar, at the entrance to the SIO Library, and near first floor photocopy machines, 2) sending an email notice to the all-at-SIO distribution list, and occasionally to targeted groups, such as the faculty or graduate students, 3) placing a brief announcement in the *SIO Log*, a weekly e-newsletter to which most faculty, staff and students at SIO subscribe and which is also posted to SIO's website.

Despite these efforts, when classes were held, attendance was low; only one to five people typically attended orientation classes and sometimes no one showed up! Our outreach tactics were not working as well as expected, so we investigated what was competing with library classes. By studying institutional calendars we determined when regular seminars and departmental meetings were scheduled and planned classes at times that do not conflict with these events. The SIO Public Information Office staff was invited to attend a class; their participation opened communication with key administrative staff and increased awareness about the library instruction program within the SIO administration. The Information Office will also post library-related materials in their glass-enclosed kiosk, located where many of our primary patrons stand in queue to get food and beverages at the SIO snack bar. On the morning of a class an email reminder is sent to *all-at-SIO* or to specific faculty or groups. The days and times of classes are varied to determine when people can and will attend a library event. We discovered *Lunch-and-Learn* sessions are quite effective in bringing people into the library for a class, especially during the rainy season when the library is not competing with lunchtime jogging routines. Signage was improved by using brightly colored poster-board, more bold colors in the lettering, and "hot yellow" arrows pointing to focus areas of the text, such as "*get free journal articles*". The number of signs was increased: additional signs

were placed on the upper levels of the library building, inside the elevator, near all photocopiers and on a standing display near the entrance. To improve outreach to our "virtual" patrons, the SIO Library home page was revised and instruction/outreach-related Web pages were created. A Web page about SIO Library classes includes the schedule plus class descriptions [[http://scilib.ucsd.edu/sio\\_instruct/Outreach/classes.html](http://scilib.ucsd.edu/sio_instruct/Outreach/classes.html) ]. A second web page dedicated to outreach is called "*What's New in the SIO Library*" [[http://scilib.ucsd.edu/sio\\_instruct/Outreach/whatsnew.html](http://scilib.ucsd.edu/sio_instruct/Outreach/whatsnew.html) ]. A *Speedlink* to this page is prominently located on the redesigned SIO Library home page. An e-mail announcement about these resources was distributed to the SIO community and they are now easily found on the Library's home page.

## **LIBRARY INSTRUCTION: TEACHING THE BASICS**

In January 1998 the first one-hour orientation class was conducted for SIO faculty and students. This class introduces key resources and services, demonstrates basic search techniques in the on-line catalog and *Database Advisor*, explains basic searches in one or two key databases such as *ASFA*, *BIOSIS Previews*, or *GeoRef*, and describes how to take advantage of important services such as free Interlibrary Loan, free article delivery and Updates (email current awareness). During the first year, the audience attending Library Orientation classes was comprised of existing academics and graduate students, NOAA Fisheries researchers who use SIO Library, and a few SIO administrative staff. We noticed that very few new SIO graduate students, newly appointed post-doctorates or new faculty attended library orientation classes once semester classes commenced. Because we feel it is important for new SIO graduate students to attend library orientations, at the end of 1998 a new tactic was used.

Before the fall semester classes start, new SIO graduate students are required to attend an administrative program introducing them to SIO. The library is given 15 minutes to make a "pitch" for the SIO Library. In September 1998, three library orientation classes were scheduled for the day immediately following the brief "introduction". Attendance at these library orientation classes was higher than in previous years when library orientations were held after fall semester classes began. We learned to conduct classes before students and faculty are fully occupied by courses and the library cannot effectively compete for their attention. Based on the success of the 1998 new student orientations, in 1999, four one-hour library orientation classes were held on the day immediately after the brief "introduction" program. As a "hook" to entice more graduate students to attend, we held a drawing at the end of each class (16 students who attended each won \$20 certificates redeemable in the campus bookstore, the aquarium bookstore or any campus food vendor). In 1998, 25% (10/40) of the incoming new graduate students attended the library orientation classes. In 1999, 70% (23/33) of the new graduate students attended the library orientation classes. Because of this positive response to bookstore certificates, in fall 2000 we will offer a \$20 certificate to all new SIO graduate students who attend one of the designated library orientation classes. At the 15-minute "Introduction to SIO" they will be given a voucher stating "We believe these library resources are so important for your studies at Scripps that we are willing to put our money where our mouth is!"



## THE SIO LIBRARY INSTRUCTION PROGRAM EVOLVES

In the beginning, the content of SIO Library's Orientation class included:

- 1) basic search and capture-print-download-email features of telnet versions of *ROGER* (UCSD's on-line catalog), *Melvyl* (the UC Union Catalog), and *PE* (the *Melvyl* Periodicals Database), telnet versions of primary journal article databases such as *BIOSIS*, *GeoRef*, *Current Contents*, etc., the Inn-view (telnet) version of *ASFA* and CD-ROM versions of primary journal article databases such as *ASFA*, and *Zoological Record*
- 2) an overview of services such as Interlibrary Loan (ILL), Reference, Circulation services
- 3) how to set up and perform patron-initiated requests such as: email Updates from *Melvyl*-system database, using ILL forms to request books or journal articles, viewing their own checkout record and renewing books remotely, getting a remote access account, etc.
- 4) navigating the library Web space and how to determine which resources are available on the Web, on CD-ROM in the library, or in paper format.

Evaluation/feedback forms collected at the end of each class are used to measure the effectiveness of the session and help determine what the users want and need in future instruction classes. The feedback form asks the attendee to indicate if the class met expectations, exceeded expectations or did not meet expectations. For planning purposes, the feedback form also asks which library databases or discipline/topics should be offered in future classes including subject based classes in biology resources, geology and geophysics resources, the Internet or instruction in specific databases such as *ASFA*, *BIOSIS*, *GeoRef*, etc. Some users indicate they want to learn about print resources in their subject area.

By 1999 the instruction program evolved to include the following classes and special sessions:

- 1) The content of the Orientation class remains constant. However, the migration of databases and the online interface from telnet and CD-ROM to Web-based formats requires revision of the class. Users are taught the techniques and search features of the new Web interface and special characteristics of Web-based databases that were not previously available.
- 2) The *What's New* class was developed to cover new resources and services as they become available such as the change in the databases (telnet to Web migration), revisions to SIO Library's Web presence and interface, how to search Science Citation Index (via Web of Science), the *Melvyl* to CDL name and interface changes, changes in document delivery using ILL forms, how to find electronic journal articles, how to print electronic journal articles, modifications to the process of printing/downloading/emailing citations, etc.
- 3) Specific Database classes were offered for *BIOSIS* Previews via the CDL and the Web version of *ASFA*. Unique search features and improved download/print/email features are demonstrated with adequate time for question and answer.
- 4) Special demonstrations and forums draw well and raise awareness of the library's instruction program. Representatives conducted product demonstrations of *Endnote* and *Reference Manager* bibliographic software. Sally Stone conducted a faculty forum and discussion of Elsevier's new online product, *OceanLine*, offering SIO faculty and graduate students a new way of looking at scholarly publishing.

Based on user feedback, topical/discipline-based classes are now being developed. Classes that will be offered in the 1999/2000 academic year include Biology Resources, Geology & Geophysics Resources, Meteorology & Climatology Resources, Navigating the Internet: Basics, and Navigating the Internet: Advanced.

## **IMPACT OF CHANGE ON LIBRARY INSTRUCTION AT UCSD**

Throughout UCSD Libraries there has been a steady conversion of library databases, online catalogs and library services from telnet and CD-ROM versions to a Web-based interface. Instruction materials can become outdated almost as fast as they are prepared. Content of basic "orientation" programs remain constant, but the interface, technicalities, and search techniques are constantly changing. By August 1999, all UCSD library's networked databases were Web accessible. CD-ROM format databases that cannot be loaded on a library-wide Web-based server are now stand-alone in other library departments, but none exist at SIO, where the last CD-ROM database was *Zoological Record* which was converted to Web access in 1998.

Public microcomputers in the UCSD Library system have undergone a major change, forcing another revision of instruction modules because of the new interface. In summer 1999, all ASCII-based public Wyse terminals (telnet) throughout the UCSD library system were replaced by microcomputers with a Web interface. At the same time, UCSD instruction coordinators ceased production and maintenance of paper-based pathfinders, handouts and online guides containing directions for telnet resources: the focus is now on Web-based resources. Instruction coordinators are developing more on-line, web-based instructional materials, but only as needed – database vendors do a fairly good job of creating help documentation for their Web-based products.

The UCSD Library is undergoing a complete analysis of its Web interface; the expected outcome is a completely revised interface called *Portal* [<http://libnet.ucsd.edu/portalproj/>]. *Portal* is modeled after similar interfaces such as University of Washington Libraries' *Information Gateway* [<http://www.lib.washington.edu/>]. UCSD instruction coordinators are involved with planning the *Portal* user interface and developing or revising online guides to resources and services. Obviously, the new interface will require another adaptation to instruction programs. When *Portal* is rolled out sometime during the 1999/2000 academic year, a library-wide outreach effort will be undertaken.

Changes outside UCSD also impact instruction and outreach. In January 1999 the University of California (UC) *MelvyI* System changed its name to the California Digital Library (CDL). The Web interface was revised to reflect the new CDL. All UC libraries are in the process of de-constructing pathfinders, web pages and reference to "*MelvyI*".

## **NEW METHODS OF OUTREACH AT UCSD**

Each new development or new library resource or service requires outreach efforts to inform patrons of the changes and the best methods for integrating these changes into their library research workflow. Throughout UCSD library instruction programs, the working definition of outreach includes promoting and providing new and existing library services such as reference,

instruction, document delivery, and resources to our clientele in their preferred location (lab, office, conference rooms, classrooms) and format (in person, phone, or email). The body of customers includes 1) the library's primary clientele: faculty staff and students, 2) community: public, including researchers and students from other organizations and schools, and 3) librarians (i.e. providing ILL, reference). Other UCSD library departments also provide outreach to teaching assistants, administrative staff, community healthcare professionals, patients, and public and special libraries (Butros, 1999).

In 1999 the SIO Library instruction and outreach program expanded to include summer programs for SURF (upper division undergraduates) and Summer Scholars (high school students). Outreach to the program coordinator of these groups is done in advance of the students' arrival on campus. Starting in summer 1999, a one-hour orientation to basic library services is part of their orientation to the institution and course of study. We observed a dramatic reduction in reference assistance after the library orientations. Only students who "skipped" the orientation required help using the library computers for basic library research (looking up a book or journal title and using *Database Advisor* (Berteaux, 1998).

## **RETHINKING THE SIO LIBRARY WEB PRESENTATION**

The SIO Library home page, established in 1994 by Peter Brueggeman, evolved into "*Oceanography on the Net*" (Figure 1), a guide to oceanographic resources on the Web with the intention to integrate SIO or UCSD library resources into the broader fabric of resources on the Web. The original site was rich in resources, but library services and key databases ended up being buried and escaping attention. "*Oceanography on the Net*" got too big and the essence of being a library, replete with resources and useful services, was lost. We were not drawing our users' attention to library resources and services.



## OCEANOGRAPHY ON THE NET

Scripps Institution of Oceanography Library

- **LIBRARY RESOURCES & DATABASES** on the ocean, oceanography, climatology, etc
- **ELECTRONIC TEXTS & PERIODICALS** on the ocean, oceanography, climatology, etc  
Includes electronic research journals, career info, & reference shelf
- **SAN DIEGO'S OCEAN**  
Waves, ocean temp, tide, weather, etc
- **OCEANOGRAPHIC & EARTH SCIENCE INSTITUTIONS**  
Research activities, personnel directories, datasets, etc
- **OCEANOGRAPHIC & EARTH SCIENCE DATA SERVICES**  
Datasets, satellite images, mapping, image/graph generation, tide predictions, etc
- **SCIENTIFIC COMMUNITY** in oceanography etc  
Includes membership & email directories, event calendars, job notices, grant information, etc
- **INTERNET GUIDES & INDEXES**  
Locate ocean, oceanography, climatology, etc resources




 <b>ROGER</b>	 <b>Melvyl</b> <small>THE UNIVERSITY OF CALIFORNIA'S LIBRARY SYSTEM</small>	<b>A · S · F · A</b>
Return to <b>UCSD Libraries</b>	<b>Infopath</b>	Return to <b>SCRIPPS</b> <small>INSTITUTION OF OCEANOGRAPHY</small> 

Figure 1. *Oceanography on the Net* Web page

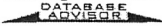
In early 1997, management responsibility for SIO Library Public Services operations, including instruction, shifted totally to the Instruction Coordinator cum Head of Public Services. Increased effort was directed towards the instruction program when technical services was centralized and management time was freed up. At the same time, revising and maintaining SIO Library Web pages became complicated for the SIO Library Director to keep up. The process of rethinking the web presentation of the SIO Library involved making some decisions. First, the SIO Library's home page and relevant public services web pages were turned over to the Head of Public Services (who attended public services committee meetings where policies are established and new information about databases, resources and services was announced). This decision streamlined the communication process and enables faster updating of Web pages when changes occur. Second, the SIO Library home page was completely revised (Figure 2) to bring focus to library services, resources and collections in a more traditional way.

In the central portion of the new design (Figure 2), attention is drawn to core library services (including library classes), resources and collections. The left column called "*Speedlinks*" is comprised of a short, bulleted list of hot links to the most relevant catalogs and databases for oceanographic researchers, as well as the SIO Library's outreach vehicle (i.e. a type of electronic newsletter), called "*What's New at SIO Library*". The right side contains a section of *Featured Sites*, important notices and special resources.

Scripps  
Institution of  
Oceanography  
Library



*SpeedLinks...*

- What's New
- ROGER
- CDL (Melvyl)
- ASFA
- BIOSIS
- GeoRef
- MGA
- MOFR
- SCI
- Current Contents
- Zoological Record
- 
- Other Databases
- Electronic Journals
- Site Search

Contact Us

[Help](#)

**Library Services**

Hours • Directions • Classes • Circulation • Reference • Interlibrary Loans • ILL Forms  
• Photocopiers • Course Reserves • Group Study Rooms • other services...

**Resources**

Key Databases for SIO • Guide to Databases at UCSD • Oceanography on the Net •  
SIO Contributions • Grants • Jobs • Meetings • Reference Shelf • Internet Guides &  
Web Indexes

**Collections**

Guide • Electronic Journals • SIO Archives • Maps, Charts & Atlas Coll. • Data  
CD-ROM Coll. • Moving Image Coll. • Impact of Journal Prices

*Other UCSD Sites*

Scripps Institution of Oceanography • San Diego's Ocean • UCSD • UCSD Libraries

Scripps Institution of Oceanography Library  
University of California, San Diego  
9500 Gilman Drive, Dept 0219  
La Jolla, CA 92093-0219

☆ **Announcing Proxy S**  
remote access to journal  
databases, electronic jou

☆ **Science Citation Inc**  
Science) 1989-1994 now

☆ **How to find Electroni**

☆ **Search for SIO Publ**

- SIO Doctoral Dissert
- Masters These
- SIO Contributions Bib
- SIO Reference Nui
- SIO Research Activit

☆ **New Fossil displ**  
SIO Library: Arthropo  
Mollusca

**CDL (Melvy**  
**REQUEST** books from  
Catalog  
**UPDATE** -- create an

Figure 2. SIO Library's home page

Complex document structures require deep menu hierarchies, but users should never be forced into page after page of menus if direct access is possible. The redesigned SIO Library Web page accomplishes our goal: to produce a well balanced hierarchical tree that facilitates quick access to information and helps users understand how information is organized.

## **INSTRUCTION & OUTREACH IN UCSD SCIENCE LIBRARIES**

UCSD science libraries comprise the Science and Engineering (S&E), Biomedical (BML)/Medical Center (MCL) and SIO Libraries. UCSD is a large ARL library (Association of Research Libraries). The SIO Library Instruction Coordinator is able draw upon expertise of other instruction librarians at UCSD, from the UC California Digital Library (CDL) system, as well as library organizations such as CCLI, CARL, SEAL, SLA, ALA, ASIS, etc. UCSD library committees such as the Instruction and Outreach Committee (IOC) and the Information Services Committee are also important groups for implementing instructional and outreach activities. However, even with these resources, the SIO instruction and outreach program encounters limitations. For example, SIO cannot do hands-on computer instruction, SIO has one librarian to develop and coordinate the program, SIO instructional sessions often compete with scientific meetings, SIO cannot arrange impromptu classes because computer display equipment is rented.

Within the larger context of UCSD libraries, changes in instructional programs are taking place. At UCSD the relationship of outreach to instruction programs, where instruction and outreach are interdependent, is noteworthy. This is evidenced by changes in the UCSD library's instruction committee's charge and name. For years this group was called Instruction Services Action Advisory Council (ISAAC). At the end of 1998, the newly appointed chair began to revitalize participation in library-wide instructional activities by the membership. Updating the committee charge was the first agenda item initiated. Early in this process, the name was revised to Instruction and Outreach Committee, reflecting the true nature of the work performed by departmental representatives on this library-wide committee. For the first time, library outreach staff (non-librarian) were allowed to participate as full members on this committee. The instruction librarians are now informed of the full range of outreach activities in the UCSD library system, and the committee is able to accomplish more of its goals and objectives. Committee work includes action items, tied to the charge with a strong emphasis on outreach activities, such as advertising in student newspapers, presence at student events, admit day, banners welcoming students to the library, etc. IOC is sponsoring a Fall Faculty Open House where computers with online access will be set up among wine and cheese tables; librarians will be able to talk about library resources and services in a more casual, "meet and greet" atmosphere.

Outreach efforts within UCSD science libraries are increasing. There is a trend of implementing diverse methods of outreach, such as

- 1) distributing email notices of new services and products. For example, SIO Library announces classes, new products and services to an email list called *all-at-SIO* and submits many of these announcements to the *SIO Log*. Occasionally an announcement about a class or new service is targeted to faculty or graduate student email lists, but broadcasting is typical. Every



- attempt is made to ensure library announcements are highly relevant and brief – patrons are not flooded with blow-by blow developments or detailed directions because we don't want them to become weary of a continuous stream of library notices;
- 2) establishing discussion lists, such as *biomedbits*, DLINSTRUCT-L list (Digital Library Instruction and Education Issues List). UCSD instruction librarians opened discussion with CDL to create an instruction-related discussion list for UC librarians, implemented in August 1999;
  - 3) devoting more Web space to highlight new services and products, for example: *Spotlight on Science: S&E Library's Electronic Magazine* [<http://scilib.ucsd.edu/>], *Featured Sites* on the Biomedical Library Web page [<http://scilib.ucsd.edu/bml>] and *What's New at the SIO Library* [[http://scilib.ucsd.edu/sio\\_instruct/Outreach/whatsnew.html](http://scilib.ucsd.edu/sio_instruct/Outreach/whatsnew.html)]. "*What's New...*" is a Web page of new library-related information such as details about electronic access to a new publisher or individual e-journal title, instructions that will help users adapt to major changes in a database (i.e. elimination of concept codes in the *BIOSIS* Previews database) or service (i.e. the metamorphosis of *Melvyl* to CDL), announcements about a new product or service (i.e. remote access via proxy server), upcoming classes or demonstrations (i.e. Endnote), etc., *Featured sites* space on the SIO Library home page [<http://scilib.ucsd.edu/sio>], current and back issues of the *SIO Log* are available on the institution Web page [<http://www-sio.ucsd.edu/>].

UCSD instruction librarians are investigating methods to improve outreach by conducting surveys to assess clientele wants and needs, paying closer attention to questions and comments made during classes, and carefully observing user search behaviors and comments during classes (especially in "hands-on sessions"). Each library unit conducts its own evaluation to adequately meet the unique needs of its clientele. Communication with non-library personnel is improved by increasing the presence of librarians at campus events, on committees and in campus publications, and by assigning librarians to specific departments to augment the traditional faculty-librarian relationship. IOC sets up a table at student events such as "Admit Day" giving away incentives like magnets and balloons as well as providing information about the library, library classes, and term paper and research help. Another effective outreach activity is teaching the Teaching Assistants (TA's) about library resources and services, which augments instruction programs for undergraduates and provides an informational conduit to the faculty about the effectiveness of the library instruction program relative to their course assignments. More partnerships are being formed between faculty and librarians to incorporate more formal library instruction into university courses. IOC initiates outreach events such as the Fall Faculty Open House where bibliographers and instruction librarians have the opportunity to demonstrate key library resources and "meet and greet" faculty and graduate students in a relaxed, but informative atmosphere.

## CHALLENGES FOR THE FUTURE

It is important to recognize the importance of outreach in a successful instruction program. Instruction is no longer separated from outreach activities; they are integral parts of the whole. The need exists to develop more effective feedback mechanisms and evaluation forms that will provide relevant data that can be analyzed and measured. These data will help us meet changing user needs and determine if an instruction program is successful. Analyzing our Web presence helps us

improve design and simplify when possible. Our own use of library Web sites can indicate if our menu scheme has poorly designed areas or has outlived its usefulness. It will be a challenge to continue tailoring instruction and outreach programs to meet changing user needs. Librarians must keep up with the depth and breadth of resources, incorporating electronic resources while continuing to teach traditional library resources. At the same time we will need to determine what users already know and counter the idea that everything is on the Web (Internet). We may have to teach critical thinking skills so users can apply traditional evaluation criteria to Web resources: accuracy, authority, objectivity, currency and coverage (Kapoun, 1998). Another challenge will be to devise programs that balance the needs and wants of users with the librarians' knowledge of skills users need to locate, use and manage information.

More online, Web-based tutorials, documentation, guides, and pathfinders that are effective and easily maintained and updated must be created. Point-of-need instruction will be required, especially when distance education programs emerge. We will need to explore and implement new methods of marketing and promoting instruction programs, as remote users become more proficient and technologically capable of conducting library research remotely. Another challenge for instruction librarians is overcoming the lack of time in a traditional 60-minute instruction session to adequately cover electronic and print resources. An increasingly electronic library environment will force a re-examination of our mission statements, require investigation between the balance of hands-on learning and conceptual learning. We are already experiencing an increase in the frequency of one-on-one consultations. There is a trend toward reducing the number of introductory classes and increasing the number of more advanced instructional programs. These changes demand an increase in staff training, and change the manner classes are marketed to users.

To meet many of these challenges we will need to develop shared resources and explore ways to share instructional expertise. At UCSD the "roving instructor" concept is evolving: an instructor with expertise in a topic such as chemistry or database such as *BIOSIS* or *Medline* would go to another library to teach a class. At the 1999 IAMSLIC conference, the session, "*Catalyst Cacophony: Developing an instruction program*" is a good start toward sharing expertise. During the spring 1999 meeting of Cyamus, a session (Berteaux, 1999) was devoted to discussing instruction and outreach issues which is summarized on the Web [ [http://scilib.ucsd.edu/sio\\_instruct/iamslic/cyamus99.html](http://scilib.ucsd.edu/sio_instruct/iamslic/cyamus99.html) ]. The dialog should continue, exploring methods of sharing instruction expertise among members of IAMSLIC. For example, members can use the *IAMSLIC Newsletter*, an instruction-related Web page could be developed, and members can work with the IAMSLIC Training Committee. Instruction librarians will certainly encounter many of these challenges in the future.

Change is inevitable. Regardless of the size of one's institution, library or instruction program, or the available resources, developing and implementing an instruction program to meet the needs of our users will continue to be a priority.

## REFERENCES

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